What we claim is:

1) A method of changing-over a first molten aluminum-zinc alloying metal coating composition to a second molten zinc coating composition in a metal strip coating line comprising a first tank provided with heating means for controlling the temperature of the molten metal in said first tank during coating of said strip and a second smaller removable tank for containing said second coating molten metal adapted to be partially immersed within said first tank, which method comprises:

withdrawing a first amount of said first coating composition so that the volume emptied from said first tank is sufficient to accommodate the second tank;

modifying the composition of the molten bath in said first tank so that the melting temperature of the molten bath in said first tank is below the operating temperature of the coating molten metal in said second tank;

placing said second tank within said first tank in heat-transfer contact with the first coating molten metal in said first tank; filling said second tank with the second coating molten metal;

controlling the temperature of the second coating molten metal by controlling the heating means of said first tank.

2) A method according to claim 1, further comprising maintaining the upper level of the second coating molten metal in said second tank at about the same upper level of the first coating molten metal in said first tank.

3) A method according to claim 2, wherein the first coating has a composition of a molten metal comprising about 50% to 60% by weight of aluminum, about 40% to 50% by weight of zinc and about 1% to 2% of silicon, and wherein the second coating has a composition of a molten second metal comprising more than about 98% of zinc by weight and less than 1% of aluminum and antimony.

4) A method according to claim 3, wherein said modifying step is accomplished by adding molten zinc, as at least the major constituent, to the first coating composition remaining in the first tank after the withdrawal of said first amount thereof, such that the concentration of aluminum in the first tank is lowered from about 55% to about 10% in order to effectively lower the solidification temperature of the molten bath in the first tank for it to be molten while the galvanizing second bath is in use.

5) A method according to claim 4, wherein the composition of said modified molten metal in said first tank is modified to have a density in the range of 5.5 to 6.0 tons/m^3 and a melting temperature of about 400°C to about 480°C.

6) A method according to claim 5, further comprising preheating in a furnace said second tank to a temperature above about 400°C.

7) A method according to claim 6, further comprising withdrawing from the surface of the molten bath of said first tank, iron compounds, dross, which tends to float when increasing the density of the first bath by adding zinc.

8) A method according to claim 7, further comprising coating the external side of the wall of said second tank with a zirconium-based coating for protecting it against the chemical action of the molten metal bath in said first tank.

9) A method according to claim 1, further comprising providing heat to any exposed portion of the ceramic lining of said first tank, by means of burners so as to avoid thermal shocks to said ceramic lining.

10) A method according to claim 1, further comprising the following steps for returning to the operation of coating said strip with said first coating molten metal:

withdrawing the molten metal from said second tank;

removing said second tank away from said first tank; and

adjusting the volume and composition of the molten metal bath in said first tank by additions inclusive of silicon and liquid aluminum.

11) Apparatus adapted for rapid and efficient change-over of coating molten metal in a strip coating line from an aluminum-based first coating molten metal to a zinc-based second coating molten metal comprising

a first tank provided with an inner ceramic lining and containing a modified molten metal whose constituents are the same as those in said first coating molten metal but in different concentrations sufficient to have a melting temperature and density close enough to those of the second coating molten metal to ensure effective heat transfer via the modified molten metal to the second coating molten metal;

heating means for maintaining metal in said first tank in the molten state;

a second smaller removable tank without heating means adapted for containing said second coating molten metal and adapted to be placed within said first tank, said second tank having a downwardly tapering wall to facilitate its positioning within said first tank and avoiding damage to said ceramic lining of the first tank while positioning said second tank within said first tank and while removing said second tank from said first tank;

means for guiding and holding said second tank immersed in the modified molten metal of said first tank;

means adapted for withdrawing a first amount of said first coating composition so that the volume emptied from said first tank is about the volume of the second tank;

means for placing said second tank within said first tank in heat-transfer contact with the modified molten metal in said first tank;

means for filling said second tank with the second coating molten metal;

means for controlling the level of the second coating molten metal in said second tank at about the same level of the molten metal in said first tank; and

means for controlling the temperature of the second coating molten metal at the desired range of operation by regulating the heat provided to said second molten metal by the heating means of said first tank via said modified molten metal. .

12) Apparatus according to claim 11, wherein the composition of said modified molten metal of said first tank has a density in the range of 5.5 to 6.0 tons/m^3 and a melting temperature above about 400°C to about 480°C.

13) Apparatus according to claim 11, further comprising a furnace for preheating said second tank to a temperature above 400°C prior to its positioning within said first tank.

14) Apparatus according to claim 11, wherein said second tank comprises a wall made of stainless steel 316L.

15) Apparatus according to claim 14, wherein the outer wall of said second tank is coated with a zirconium-based coating for its protection against the chemical action of the molten metal bath in said first tank.